

# Indian Health Diabetes Best Practice Adult Weight Management and Diabetes

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# **Best Practice Guidelines**

## **What is adult weight management?**

Weight management has been defined by the National Institute of Diabetes and Digestive and Kidney and Diseases (NIDDK) as “achieving and maintaining a healthy weight by eating nutritious foods and being physically active.”

Obesity is a chronic disease, and health care providers and patients must understand that successful treatment requires a lifelong effort. Effective strategies for weight management need to be formulated to address the social, cultural, and environmental factors that underlie overweight and obesity. A variety of approaches for adult weight management are available to help individuals achieve and maintain a healthy body weight and are described within this best practice.

## **Why is adult weight management important?**

In people who have diabetes, overweight, and obesity can complicate the management of diabetes by increasing insulin resistance and raising blood glucose levels.

- Overweight and obesity can also worsen the long-term complications of diabetes (Klein et al., 2004). Obesity in people with diabetes is associated with poorer control of blood glucose levels, blood pressure, and cholesterol, placing them at higher risk for both cardiovascular and microvascular diseases. Obesity also increases the risk for renal disease, asthma, pregnancy complications, sleep apnea, and degenerative joint disease (Klein et al., 2004; Neisner et al., 2003).
- The prevalence of obesity is high among American Indian and Alaska Native adults. In 2008, IHS Diabetes Care and Outcomes Audit found the estimated obesity rate for people with diabetes using BMI 30 or more was 67%. Using the definition the BMI > 95 percentile, the rate is 58%.

As body mass index (BMI) increases, the risk of developing new onset diabetes dramatically increases. People with a BMI > 35 kg/m<sup>2</sup> (Class II Obesity) are 20 times more likely to develop diabetes than individuals with a lower BMI (Klein et al., 2004). For example, 60–90% of type 2 diabetes appears related to obesity or weight gain (Anderson et al., 2003).

Organizations and communities that implement these recommended practices should expect the following benefits:

- Adult weight management strategies are based on current evidenced-based medicine.
- The number of new cases of diabetes is reduced.
- The health status of those who already live with diabetes is improved.

Weight loss strategies may carry the following potential risks for some people.

1. This best practice should not be implemented for:

- pregnant and lactating women
- people with serious uncontrolled psychiatric illnesses
- people with a serious illness and for whom caloric restriction would exacerbate the illness
- people with a history of anorexia nervosa and bulimia, and
- people with active substance abuse.

2. Weight loss surgery may carry potential risks for some people, including:

- early complications such as bleeding, infection, leaks from the intestinal site, and blood clots in the legs that can progress to the lungs and heart
- later complications such as malnutrition and hernias
- unsatisfactory weight loss or regain much of lost weight.
- Some patients may also require emotional support to help them through the postoperative changes in body image and personal relationships.

3. Rapid weight loss is associated with an increased risk of cholelithiasis, or gallstones.

4. Long-term weight loss drugs, including prescription and over-the-counter, to treat obesity may carry potential risks, including:

- potential for abuse or dependence
- development of tolerance
- reluctance to make behavioral changes while using prescription medications, and
- side effects such as gastrointestinal problems and increased blood pressure and heart rate.

## Key Recommendations

Key Recommendations
<p>Recognize exclusions from weight loss therapy.</p> <p>Assess for overweight and obesity.</p> <p>Use lifestyle approaches for long-term weight loss success. These include a focus on:</p> <ul style="list-style-type: none"><li>• nutrition approaches</li><li>• physical activity</li><li>• behavior change</li><li>• pharmacologic therapy</li><li>• weight loss surgery, and</li><li>• weight maintenance.</li></ul>

## Scope and Purpose

This best practice describes recommendations to achieve and maintain a healthy weight for adults with diabetes regardless of duration of diabetes.

The potential benefits of implementing this best practice include:

- A decrease in insulin resistance, lower fasting blood glucose levels, and reduced need for diabetes medication with even a modest weight loss of 10–15 pounds (5% of body weight) in people with diabetes (Klein et al., 2004).
- A reduced risk of developing type 2 diabetes by 58% in people with pre-diabetes who have a weight loss of 5–7% of initial body weight through an intensive lifestyle intervention program (Knowler et al., 2002; Diabetes Prevention Program Research Group, 2002).
- Risk reduction of other chronic diseases such as hypertension and cardiovascular disease.

The best practice addresses the following questions:

1. What are effective methods used for assessing overweight and obesity?
2. What are the effects of using evidence-based lifestyle approaches to treat overweight and obesity?
3. What is a “Healthy Weight?”

4. What is effective successful weight maintenance?
5. What is a health-focused approach to weight management?
6. What percentage of body weight loss is necessary to realize improvement in specific health parameters?
7. What combination of lifestyle approaches for weight management are the most effective?

The best practice objectives\* are to:

- Implement best practice approaches to weight management primarily, although not exclusively, for overweight and obese individuals who have type 2 diabetes or are at risk for type 2 diabetes.
- Reduce the risk of type 2 diabetes and co-morbidities associated with overweight and obesity.
- Provide effective strategies for clinical and community programs to integrate and expand services to correct overweight and obesity in American Indian and Alaska Native communities.

(\*Measures of progress towards these objectives need to occur before the intervention and at designated times thereafter).

The intended users of this best practice are:

- primary health and diabetes care teams
- community workers who provide adult weight management education and/or services
- leaders of health care organizations.

This document provides guidance for programs that seek to improve patients' weight and health and to enhance the delivery of effective adult weight management approaches. There are three fundamental questions to address as you plan and implement your best practice. These questions are:

- 1. What are you trying to accomplish by implementing this best practice?**
- 2. How will you know if what we do makes things better?**
- 3. What can you do to make things better?**

See Appendix A for sample answers to these questions specifically related to adult weight management.

The recommendations are intended to be used within American Indian and Alaska Native communities and are consistent with the *IHS Standards of Care for Adults with Type 2 Diabetes*. This document reflects knowledge and tools available through June 2009.

## Monitoring Progress and Outcomes

The following measures can be used to monitor the effects of implementing this best practice:

- Body Mass Index (BMI) and weight can be tracked using the IHS Diabetes Care and Outcomes Audit data. (e.g., monitor the percentage of patients with diabetes that have height and weight measured and recorded in chart.)
- Diabetes education conducted by a Registered Dietitian and/or other providers can be tracked using the IHS Diabetes Care and Outcomes Audit data and Patient and Family Education Codes.
- Costs of providing adult weight management services can be tracked using budget data.
- Patient and staff experiences with weight management services provided can be tracked using patient surveys, questionnaires, and/or targeted interviews.
- Presence and effectiveness of a functioning referral system between primary care providers and adult weight management team (e.g., Registered Dietitians, wellness center staff, and fitness specialists) can be tracked using a review of chart and/or referrals.

## Key Measures

Key Measures for Monitoring Progress and Outcomes
<p>The measures of primary importance are:</p> <ol style="list-style-type: none"><li>1. Percentage of diabetes patients with documented nutrition education by a Registered Dietitian or other provider in the past twelve months.</li><li>2. Percentage of diabetes patients with a documented assessment for overweight or obesity in the past twelve months.</li></ol>



# Clinical Recommendations

## 1. Assess for overweight and obesity.

**Why?** Assessing clients for overweight and obesity will help determine risk for associated diseases and health problems, set weight management goals, and measure outcomes (Anderson, 2003; American Dietetic Association, 2009; NHLBI, 2000).

### **How?**

**A. Take body (anthropometric) measurements** using appropriate equipment that accommodates a wide range of body sizes to make accurate measurements.

1. Obtain height and weight without shoes. Use the following instruments to obtain accurate measurements:
  - wall-mounted stadiometer to measure height
  - calibrated balanced beam scale to measure weight.
2. Calculate Body Mass Index (BMI) from height and weight measurements.
  - The National Heart, Lung, and Blood Institute has a useful website to calculate automatically BMI in standard and metric measures (BMI classification expressed as kg/m<sup>2</sup>). See the Tools/Resources section for BMI calculator tool.
  - BMI can be used for most men and women, but it does have limitations. BMI may overestimate body fat in athletes and others who have a muscular build and overestimate body fat in older persons or others who have lost muscle mass.
  - Use the following BMI criteria to identify the severity of obesity (WHO, 1997; NHBLI, 1998):
    - BMI < 18.5 is underweight.
    - BMI = 18.5–24.9 is normal weight.
    - BMI = 25.0–29.9 is overweight.
    - BMI = 30.0–34.9 is obesity class I.
    - BMI = 35.0–39.9 is obesity class II.
    - BMI > 40.0 is obesity class III.
3. Measure waist circumference. Waist circumference is most useful when BMI is < 35 kg/m<sup>2</sup>. High risk is associated in men with a waist circumference > 40 inches and in women with a waist circumference > 35 inches. To measure correctly, have the person stand up and place a tape measure around the waist, just above the hipbones. Measure the waist just after the person breathes out.

## **B. Conduct medical assessment**

1. This document provides best practices guidelines for adult weight management for any person with diabetes and/or at risk of diabetes with the following exclusions:
  - pregnant and lactating women
  - serious uncontrolled psychiatric illness (e.g., major depression, Post-Traumatic Stress Disorder, addictions, and anxiety)
  - a serious illness and for whom caloric restriction would exacerbate the illness
  - a history of anorexia nervosa and bulimia
  - active substance abuse.
2. Identify other specific, but rare, identifiable causes of overweight (e.g., endocrine problems, neurological problems, medications, and genetics).
3. Identify obesity-associated disorders (e.g., Polycystic Ovarian Syndrome) and medical complications (e.g., metabolic syndrome, degenerative, anatomic, neoplastic complications, sleep apnea, and joint problems).
  - screening for cardiorespiratory fitness may be indicated, and
  - screening for musculoskeletal concerns may be indicated.
4. Use lab values such as blood glucose, A1c, and lipids to assess metabolic levels as appropriate.
5. Identify individuals on medications such as insulin or oral sulfonylureas and monitor for hypoglycemia. Refer for medical clearance to begin weight loss program.
6. Screen for depression. Refer to the *Indian Health Diabetes Best Practice Depression Care* or refer to appropriate behavior health provider as needed.

## **C. Assess readiness to learn and to change**

1. Assess motivation using tools such as Stages of Change, Readiness for Behavior Change, or Motivational Scale 1-10. See the Tools/Resources section for a readiness to change assessment tool.
2. Assess confidence level for setting goals using the Ultra-Brief Person Action tool. (See the Tools/Resources section for the Ultra-Brief Person Action tool).

3. Assess behavior using the National Heart, Lung, and Blood Institute's Brief Behavior Assessment Tool (NHLBI, 2000). (See the Tools/Resources section for this tool).
4. Assess for barriers to successful weight loss such as stress, low literacy, economic restraints, food availability, unsafe environment, etc. through interviews and role playing.

## **2. Provide nutrition approaches to treat overweight and obesity.**

**Why?** Strong evidence suggests that dietary changes result in moderate weight loss (Hill et al., 2005; Klein et al., 2004; Nonas, 1998).

Most individuals in community and clinical settings lose 5–7 pounds during a weight loss program; although this weight loss seems modest, it significantly improves health indicators (Jain et al., 2004). Virtually all calorie-reduced diets result in short-term weight loss. Keeping weight off is a major challenge for most individuals.

### **How?**

#### **A. Recognize that there is not one best type of diet**

1. Use an individualized approach when working with patients or clients. The best predictor of weight loss is not the type of diet, but sticking with the diet, regardless of the diet used (Dansinger et al., 2005). A comparison of weight loss diets with different compositions of fat, carbohydrate, and protein, showed that reduced calorie diets result in weight loss regardless of macronutrients (Sacks FM et al, 2009).
2. Make a referral to a registered dietitian for Medical Nutrition Therapy (MNT). Medical Nutrition Therapy is a comprehensive nutrition practice that includes nutrition education and patient therapies such as medications, physical activity, and behavioral health.

#### **B. Calorie control is important to treat overweight and obesity**

1. Provide advice on ways to cut back on calories to help in weight loss. In general, 1,000 to 1,200 calories a day will help most women lose weight safely. In general, 1,200 to 1,600 calories a day will help most men lose weight safely. This calorie range is also suitable for women who weigh 165 pounds or more or who exercise routinely. These calorie levels are a guide and may be adjusted. Very low-calorie diets of less than 800 calories a day should not be used unless a health professional is monitoring. Advise clients to consult a provider for recommendations for an appropriate vitamin and mineral supplement for people on low-calorie diets (Dwyer et al., 2005).

2. Advise to cut back on portion size. Portion control is a good way to eat fewer calories to achieve the 500 to 1,000-calorie deficit. A portion size is the amount of food that you choose to eat for a meal or snack. It is different from a serving, which is a measured amount of food seen on nutrition labels.
3. Set a realistic goal of losing 10% of starting weight. Most of the initial weight loss will result from decreased calorie intake. For example, to lose one or two pounds per week, adults should cut back daily calorie intake by 500 to 1,000 calories.
4. Make a referral to a registered dietitian for Medical Nutrition Therapy to provide comprehensive nutrition education and therapy.

### **C. Create an individualized healthy eating plan**

1. Develop a healthy eating plan that is low in total, saturated, and trans fats, cholesterol and salt. This will help lower risk for heart disease. Cutting down on fats and added sugars also can help in eating fewer calories and losing weight. Choose a variety of nutrient-dense foods.
2. Healthful foods include:
  - fat-free and low-fat dairy products such as yogurt, cheese, and milk
  - lean meat, fish, poultry, cooked beans, and peas
  - whole grains foods such as whole wheat bread, tortillas, pasta, oatmeal, brown rice, cereals, and crackers
  - fruits that are canned, frozen, fresh or dried
  - vegetables that are canned (without salt), frozen, and fresh.
  - Canola or olive oils and soft margarines made from these oils are heart healthy but should be used in small amounts because they are high in calories.
3. Limiting foods and drinks with added sugars is important.
4. Drinks with alcohol are high in calories.
5. Water is the calorie-free drink and important for weight loss.
6. Refer to USDA Dietary Guidelines, Healthy Beverage Guide, USDA Food Guide, and the DASH (Dietary Approaches to Stop Hypertension) Eating Plan (DHHS, 2005).

#### **D. Consider using non-diet approaches**

1. Non-diet approaches such as the Health at Every Size (HAES) program provide a health-centered versus weight-focused approach. For more information on HAES go to the Tools/Resources section.
2. Consider commercial weight loss programs that might be appropriate for some individuals. Ask if the program follows the Voluntary Guidelines for Providers of Weight Loss Products or Services (Partnership for Healthy Weight Management, 1999).

### **3. Create and support opportunities for physical activity to treat overweight and obesity.**

**Why?** Physical activity programs are part of weight loss therapy and maintenance. Diet and exercise together provide the best approach for weight loss and maintenance. Physical activity has other benefits: it helps lower total cholesterol, low-density lipoprotein (LDL) cholesterol, and triglycerides, and it decreases abdominal fat and increases cardiorespiratory fitness (NHLBI, 1998).

Most initial weight loss occurs as a result of decreased calorie intake, rather than increased physical activity (NHLBI, 2000). For long-term weight loss, however, increased physical activity is essential (Wing and Hill, 2001).

#### **How?**

##### **A. Assess readiness for physical activity**

The Physical Activity Readiness Questionnaire (Par-Q) is a good tool for screening people who may need a medical clearance before beginning a physical activity program. This tool can be viewed at <http://www.shapeup.org/fitness/assess/parq1.php>. Refer to a health care provider for medical clearance, if indicated, before starting a physical activity program (NHLBI, 1998).

##### **B. Assess footwear for proper fit**

Refer patients for a professional evaluation and fitting as needed. See also *Indian Health Diabetes Best Practice Foot Care*.

##### **C. Assist in making an individualized exercise plan**

1. Select a physical activity of choice such as walking, dancing, bicycling, gardening, hiking, swimming, or other. Include the family and community in the activities if possible.

2. Suggest starting a physical activity program slowly and build up the intensity a little at a time such as short ten- to fifteen-minute walks once a day or three days a week. Other examples to increase activity include doing household chores, yard work or gardening, parking farther than usual from work or shopping, and walking up stairs instead of taking the elevator.
3. Suggest building up to a moderate intensity such as 30 to 45 minutes of activity, three to five days per week.
4. Suggest setting a short-term goal with specific measurable objectives to reach the goal. Establish a plan for monitoring progress such as keeping a daily physical activity log. Next, set a longer-term goal and include strategies to sustain physical activity to prevent weight regain (see Section 7. Provide support for weight maintenance).
5. Suggest using a pedometer or step counter to measure and track activity. Determine baseline number of steps the first week and then slowly increase steps using a log sheet. An example of a log sheet can be found in the Tools section.

#### **D. Assist with problem solving**

Identify barriers that could disrupt or change the physical activity regimen such as weather, safety issues, equipment, holidays, job, sick days, medications, cultural activities, or religious duties, etc., and identify ways to overcome them.

#### **E. Provide success stories**

Contact participants from the Special Diabetes Program for Indians using examples of current best practices.

#### **F. Use the Physical Activity Kit (PAK) in Tribal sites (See Tools)**

#### **G. Use support groups**

Use interpersonal support groups (e.g., a weight loss or walking club) to encourage and provide support and guidance to make healthful choices.

#### **H. Refer to physical fitness trainer/specialist**

### **4. Provide behavior change approaches to treat overweight and obesity.**

**Why?** Behavior change is an important part of any comprehensive weight loss program. Strategies that focus on specific behavior changes, rather than global psychosocial issues, produce more sustained lifestyle changes (Berkel et al., 2005; DiLillo et al., 2003; McTigue et al., 2003).

### ***How?***

- A. Provide ongoing, culturally appropriate individual and group counseling, interventions, and case management. Consider cultural perceptions about weight and encourage individual to discuss how overweight or obesity has affected his or her life. Recognize that individuals must want to lose weight, change their eating and activity patterns, and keep the changed eating and activity patterns for a lifetime. Focus on changing current behaviors related to physical activity and food intake to achieve weight loss.
- B. Use the following techniques to help change behaviors:
  - self-monitoring
  - goal setting
  - stimulus control
  - problem solving
  - motivational interviewing
  - cognitive restructuring
  - relapse prevention
  - stages of change.
- C. Consider implementing new behavior modification approaches, such as Internet-based interventions and telephone interventions such as text messages.
- D. Refer clients for additional behavioral health services for psychosocial issues as necessary.

## **5. Provide medications and supplements as appropriate.**

***Why?*** Pharmacologic therapy is appropriate for some patients as an adjunct to lifestyle interventions to facilitate weight loss and prevent weight regain. In randomized trials of FDA-approved medications combined with changes in lifestyle, the reduction in initial weight was 3 to 5% greater with the medications (Eckel, 2008).

### ***How?***

- A. Consider pharmacotherapy that may be helpful for eligible high risk patients and should be used only under medical supervision.
- B. Current criteria for the use of pharmacologic therapy for obese patients are a BMI > 30 or a BMI > 27 in the presence of coexisting conditions.
- C. Use prescription weight loss medications as part of a program that also includes healthy eating, physical therapy, and behavior modification.
- D. Use caution or avoid non-prescription supplements or herbal therapies. Seek medical consultation before use.

## **6. Consider weight loss surgery as appropriate.**

**Why?** Weight loss surgery, also called bariatric surgery, is an option for some people who are severely obese and in whom other methods of treatment have failed. Patients who undergo bariatric surgery must also commit to a lifetime of healthy eating and regular physical activity. These health habits help ensure that the weight loss from surgery is successfully maintained (NIDDK, 2009).

### **How?**

- A. Weight loss surgery should be considered for individuals who have clinically severe obesity with BMI  $\geq 40$  or BMI  $\geq 35$  and who have life-threatening conditions such as:
  - severe sleep apnea
  - cardiovascular disease
  - type 2 diabetes.
- B. Lifelong medical monitoring after surgery is essential. An integrated program that provides guidance on diet, physical activity, and psychosocial concerns before and after surgery is beneficial.
- C. Refer to a health care provider for evaluation as appropriate.

## **7. Provide support for weight maintenance.**

**Why?** Lifestyle interventions involving diet, exercise, and behavior modification produce clinically significant weight reductions. Studies show, however, that one-third to one-half of lost weight is regained during the year following treatment. If lost weight is not maintained, the associated health benefits also may not be sustained (Perri, 2008).

### **How?**

- A. Provide long-term support such as a program or a monitoring system. This is critical to maintaining weight loss and preventing weight regain. Consider using the weight maintenance strategies practiced by successful weight loss maintainers in the National Weight Control Registry (see Tools for information about the National Weight Control Registry).



## Keys to Maintaining Weight Loss

Keys to Maintaining Weight Loss
Eat a low-fat diet.
Self-monitor weight and food intake frequently.
Engage in a high level of regular physical activity (e.g., one hour daily). (Wing and Hill, 2001).

- B. Provide ongoing follow up care such as telephone calls to monitor and support action plan. Ask for ongoing support from the community, health care system, and providers (e.g., resources, staff time, equipment, space, etc.).

## Community Recommendations

### Develop and implement culturally appropriate adult weight management messages

**Why?** Adult weight management education messages that are culturally appropriate and use culturally appropriate formats can have a positive effect.

<http://aspe.hhs.gov/hsp/07/AI-AN-obesity/report.pdf>

#### **How?**

- A. Use culturally appropriate approaches such as talking circles and forums to increase knowledge of the link between overweight and obesity and risk of diabetes and diabetes complications.
- B. Conduct community campaigns that increase knowledge about effective approaches to attain and manage a healthy weight in adults with diabetes and at risk for diabetes by:
- featuring successful participants in a lifestyle change program telling his or her story on a local radio show or interview for a Tribal newsletter article, and
  - featuring local people or family members being physically active and participating in traditional activities such as harvesting traditional food, running races, etc.

## Organization Recommendations

### **Provide support to members of the diabetes team.**

**Why?** Health care systems that provide medical support and resources to make and sustain healthy choices can result in effective prevention and treatment of overweight and obesity (Neisner et al., 2003).

#### **How?**

- A. Create an environment that promotes healthy lifestyles by supporting environmental and policy changes. For example:
  - 1. Conduct community campaigns to increase awareness that weight management is a lifelong process.
  - 2. Create opportunities for physical activity at worksites by giving employees 30 minutes to exercise, posting nutrition content of meals, and providing non-sugary beverages and low-calorie foods in vending machines.
  - 3. Make community facilities available and accessible for physical activity for all ages, including the elderly (e.g., open schools and/or wellness centers on weekends and evenings).
  - 4. Encourage environmental changes for increasing access to healthful foods, including neighborhood gardens and healthy food and beverage choices in grocery stores and farmers' markets where possible.
  - 5. Expand coalitions and partnerships within IHS and with other Federal agencies to build a dynamic Indian Health Network for healthy weight management.
  - 6. Develop tools for local programs to assess existing resources and assets and to identify the gaps and needs for local healthful eating and physical activity services.
  - 7. Disseminate information about successful weight loss programs to American Indian and Alaska Native communities through the Indian Health Service network (e.g., email, listservs and online messages).
- B. Support evidence-based guidelines to facilitate clinical decision-making and improve outcomes.
- C. Support a multidisciplinary team approach.
- D. Provide staff training to increase sensitivity and foster respect for overweight and obese clients.

E. Provide community education to improve understanding of weight management.

## **Evaluating an Adult Weight Management Program**

Evaluation is a vital component of effective health care management. Evaluation is simply an organized way to collect information about a diabetes program's activities and services. The information collected is used to determine if the activities and services are effective. For example, is the target audience being reached? Is the program providing more effective activities and services? Do people have better health outcomes?

A good evaluation plan links activities and services to the broad ambitions or goals of a diabetes program and includes specific measurable objectives which are used to monitor progress, effectiveness, and outcomes.

Take actions to design and implement an effective evaluation plan:

- Identify your program's goal. For example, describe what the diabetes team is trying to accomplish by implementing the adult weight management best practice.
- Define specific measurable objectives to accomplish to reach the goal.
- Monitor progress by taking specific measures before and during the program's activities.
- Define who will collect and track process and outcome measures and how often measures will be collected to identify the effectiveness of the AWM intervention and to recognize gaps.
- Assign responsibility for data collection.
- Determine how often data will be collected.
- Identify how data will be displayed for analysis.
- Define how data will be used for improvement.
- Define how data will be used to sustain improvements.
- Define how often data will be shared with the team and/organization leaders.

You can link to online training and a workbook to get more ideas about setting goals and objectives and developing a program plan at:

<http://www.ihs.gov/MedicalPrograms/Diabetes/HomeDocs/Training/WebBased/Basics/CreatingWorkbook.pdf>

## **Sustaining an Adult Weight Management Program**

- Organizational challenges of implementing the best practice may include funding, staffing and competing priorities. These should be addressed in the organization's strategic plan.
- Implementing a best practice has cost implications. An organization needs to prioritize funding to include this best practice.
- There are critical issues that must be addressed in order to enhance program success and sustainability. A few of them include:
  - strong leadership and/organizational support that includes funding for staff, training, and resources and establishing policies that support an effective adult weight management program
  - organization strategic plan that addresses prevention and treatment of overweight and obesity
  - primary care staff mentoring by adult weight management champions
  - active participation by adult weight management specialists in diabetes care team and initiating an adult weight management workgroup within the diabetes team
  - use of multi-year audit results to identify the effectiveness of activities and to plan next steps
  - ongoing assessment of patient satisfaction with care and the use of what is learned to make improvements
  - technical assistance for patient and community education, and
  - data systems that provide timely access to relevant clinical information.

## Tools and Resources

### Provider Resources

#### Assessing Overweight and Obesity Tools

An online BMI calculator can be accessed at <http://www.nhlbisupport.com/bmi/>

**Table 1 - To Evaluate BMI Level, Print and Laminate:**

Body Mass Index (BMI)
BMI < 18.5 is underweight.
BMI = 18.5–24.9 is normal weight.
BMI = 25.0–29.9 is overweight.
BMI = 30.0–34.9 is obesity class I.
BMI = 35.0–39.9 is obesity class II.
BMI > 40.0 is obesity class III.

#### Physical Activity Tools

**Walk your way to health.** This 15-week pedometer tracking sheet illustrates how to establish a baseline (average daily steps), and then how to gradually increase steps. A sample log sheet to track progress is located: <http://lancaster.unl.edu/FOOD/walk.pdf>

**Physical Activity Kit (PAK).** This training is intended for practitioners and facilitators of health promotion in American Indian and Alaska Native communities to learn how to implement, evaluate, and disseminate the evidence-based physical activity interventions in PAK for American Indian and Alaska Native communities. The training explains and demonstrates several physical activity programs developed by the University of New Mexico Prevention Research Center, such as Pathways: Prevention of Obesity in American Indian School Children (which includes modified American Indian games, exercise breaks, mountain pathways challenge, and a race), Healthy Body Awareness, and Native American Dance Overview. The programs cover strength-building, flexibility, and aerobics and are geared for all ages across the lifespan (such as Head Start youth, elementary through high school youth, young adults, adults, older adults, and families). <http://www.cdc.gov/prc/training/practitioners/physical-activity-kit-facilitator-training.htm>

#### Readiness for Change and Behavior Tools

To assess stage of change or readiness for behavior change, consider this tool: <http://www2.medicine.wisc.edu/home/naa/readinessstages>

To assess confidence level for setting goals using the Ultra-Brief Person Action tool.  
[http://coloradoguidelines.org/pdf/pcmh/resources/cafp-conference/handouts/sms-reims/Cole\\_UB-PAP.pdf](http://coloradoguidelines.org/pdf/pcmh/resources/cafp-conference/handouts/sms-reims/Cole_UB-PAP.pdf)

To assess behavior using the National Heart, Lung, and Blood Institute's Brief Behavior Assessment Tool (NHLBI, 2000):

[http://www.nhlbi.nih.gov/guidelines/obesity/prctgd\\_c.pdf](http://www.nhlbi.nih.gov/guidelines/obesity/prctgd_c.pdf)

[http://www.nhlbi.nih.gov/guidelines/obesity/e\\_txbk/txgd/algorithm/algotext.htm](http://www.nhlbi.nih.gov/guidelines/obesity/e_txbk/txgd/algorithm/algotext.htm)

## **Effective Weight Loss Strategies and Approaches**

The Diabetes Prevention Program (DPP) curriculum manuals may be downloaded, duplicated, transmitted, and otherwise distributed for educational or research purposes provided proper credit is given to the DPP Research Group. Note that some of the materials may have incorrect formatting and are undergoing revisions.

<http://www.bsc.gwu.edu/dpp/manuals.htmlvdoc>

Health at Every Size (HAES) is an approach to health that focuses on intuitive eating and pleasurable physical activity rather than dieting and weight loss. This program has been shown to be successful for obese women. For more information:

[http://www.uwyo.edu/WINTHEROCKIES\\_EDUR/ANewYou.asp](http://www.uwyo.edu/WINTHEROCKIES_EDUR/ANewYou.asp)

## **Effective Weight Maintenance Strategies**

The National Weight Control Registry (NWCR) is the largest prospective investigation of long-term successful weight loss maintenance. The NWCR is tracking over 5,000 individuals who have lost significant amounts of weight and kept it off for long periods of time. Detailed questionnaires and annual follow-up surveys are used to examine the behavioral and psychological characteristics of weight maintainers, as well as strategies they use to maintain their weight. Research findings from the National Weight Control Registry have been featured in many national newspapers, magazines, and television broadcasts, including *USA Today* (<http://www.usatoday.com/news/health/default.htm>), "Oprah" (<http://www.oprah.com/index>), *The Washington Post* (<http://www.washingtonpost.com/>), "Good Morning America" (<http://abcnews.go.com/gma>), and The National Weight Control Registry (<http://www.nwcr.ws/>).

## **Web-based Resources**

Division of Diabetes Treatment and Prevention [Internet]. An on-line training course on effective program planning and evaluation. [Developed 2009 July] Creating Strong Diabetes Programs: Plan a Trip to Success.

<http://www.ihs.gov/MedicalPrograms/Diabetes/index.cfm?module=trainingBasicsCreating>

Division of Diabetes Treatment and Prevention [Internet]. A workbook (with on-line training course listed above) on effective program planning and evaluation. [Developed 2009 July] Creating Strong Diabetes Programs: Plan a Trip to Success. <http://www.ihs.gov/MedicalPrograms/Diabetes/HomeDocs/Training/WebBased/Basic/Creating/Workbook.pdf>

American Council for Fitness and Nutrition. The American Council for Fitness and Nutrition (ACFN) is a non-profit organization that brings together food and beverage companies, associations, and health and nutrition advocates to work toward viable long-term solutions to the nation's obesity epidemic. ACFN represents a diverse group of organizations and is guided by an Advisory Board of experts in the fields of nutrition, physical activity, and behavior change. The council offers some quick tips for individuals making lifestyle changes. <http://www.acfn.org>

American Diabetes Association. <http://www.diabetes.org>. The American Diabetes Association is leading the fight against the deadly consequences of diabetes and fighting for those affected by diabetes. The Association funds research to prevent, cure, and manage diabetes; delivers services to hundreds of communities; provides objective and credible information; and gives voice to those denied their rights because of diabetes. Here you will find many resources, tips, and ideas to sustain a healthful eating lifestyle. <http://www.diabetes.org/food-nutrition-lifestyle/lifestyle-prevention.jsp>

American Dietetic Association. The American Dietetic Association is the world's largest organization of food and nutrition professionals. ADA is committed to improving the nation's health and advancing the profession of dietetics through research, education and advocacy. Here you will find consumer resources about food. <http://www.eatright.org>  
<http://www.eatright.org/cps/rde/xchg/ada/hs.xsl/nutrition.html>

Centers for Disease Control and Prevention BMI calculator. Here you will find a BMI calculator for adults and youth. <http://www.cdc.gov/healthyweight/assessing/bmi/index.html>

Centers for Disease Control and Prevention Division of Nutrition and Physical Activity. The goals of this CDC site are to increase health-related physical activity through population-based approaches, improve those aspects of dietary quality most related to the population burden of chronic disease and unhealthy child development, and decrease prevalence of obesity through preventing excess weight gain and maintenance of healthy weight loss. Here you will find online tools for healthy weight, nutrition, physical activity, and overweight and obesity and how to evaluate your program. <http://www.cdc.gov/nccdphp/dnpao/index.html>. See also websites below.

Centers for Disease Control and Prevention Division of Nutrition and Physical Activity. <http://www.cdc.gov/nccdphp/dnpa/index.htm>

Centers for Disease Control and Prevention, Healthy Weight – it's not a diet, it's a lifestyle! <http://www.cdc.gov/healthyweight/index.html>

Centers for Disease Control and Prevention – Obesity: Halting the Epidemic by Making Health Easier, At-a-Glance 2009.  
<http://www.cdc.gov/NCCDPHP/publications/AAG/obesity.htm>

Centers for Disease Control and Prevention, Weight Management Research to Practice Series. <http://www.cdc.gov/nutrition/professionals/researchtopractice/index.html>

Centers for Disease Control and Prevention - Planning, Implementing, and Evaluating Interventions. <http://www.cdc.gov/nutrition/professionals/interventions/index.html>

Chronic Care Model. Improving Chronic Illness Care is dedicated to improving the United States health system through supporting providers who care for chronically ill patients with guidelines, specialty expertise, and information systems so that overall health care costs can be lowered through better care delivery. Here you will find a toolkit to improve clinical practice. <http://www.improvingchroniccare.org/>. At this site you will find “Integrating Chronic Care and Business Strategies in the Safety Net: Toolkit,” <http://www.improvingchroniccare.org/index.php?p=Toolkit&s=244>

Council of State Governments Obesity Prevention Resources. Here you will find a toolkit that provides policymakers with resources, data, trends, and examples of solutions being implemented or considered by states and legislators across the country that aim to reverse the childhood obesity epidemic. <http://www.healthystates.csg.org>, <http://www.healthystates.csg.org/Public+Health+Issues/Obesity/Obesity+Resources.htm>

Dietary Guidelines for Americans 2009. Here you will find resources on My Pyramid and other nutrition tools.  
<http://www.cnpp.usda.gov/dietaryguidelines.htm>

Food and Drug Administration Obesity information. The US Food and Drug Administration is interested in protecting the health of Americans. Here you will find many resources on how to lose weight.  
<http://www.fda.gov/loseweight/>

Guide to Community Preventive Services. The Guide to Community Preventive Services is a free resource to help choose effective and proven programs and policies to improve health and prevent disease in your community. Here you will find more than 200 interventions that have been reviewed and the evidence base for their use.  
<http://www.thecommunityguide.org/library/default.htm>

National Diabetes Education Program (NDEP). The NDEP is a partnership of the National Institutes of Health, the Centers for Disease Control and Prevention, and more



than 200 public and private organizations. NDEP provides many free resources and tools for preventing type 2 diabetes, including the “Small Steps. Big Rewards. Prevent Type 2 Diabetes” awareness campaign that has PSAs, tip sheets, and posters tailored for American Indian and Alaska Native communities (“We have the power to prevent diabetes”). There is also a “Small Steps” health care provider’s toolkit with step-by-step guidance for counseling patients on weight loss and companion consumer brochures that include a fat and calorie counter and food and physical activity tracker based on the materials used in the DPP.

<http://www.ndep.nih.gov/>

National Heart, Lung, and Blood Institute Clinical Guidelines and Identification, Evaluation, and Treatment of Overweight and Obesity in Adults. The National Heart, Lung, and Blood Institute, in cooperation with the National Institute of Diabetes and Digestive and Kidney Diseases, provides guidelines on the identification, evaluation, and treatment of overweight and obesity. You will find specific information about weight loss programs at these links. [http://www.nhlbi.nih.gov/guidelines/obesity/ob\\_home.htm](http://www.nhlbi.nih.gov/guidelines/obesity/ob_home.htm)

The National Heart, Lung, and Blood Institute Selecting a Weight Loss Program  
[http://www.nhlbi.nih.gov/health/public/heart/obesity/lose\\_wt/wtl\\_prog.htm](http://www.nhlbi.nih.gov/health/public/heart/obesity/lose_wt/wtl_prog.htm)

National Institute of Diabetes and Digestive and Kidney Diseases Choosing a Safe and Successful Weight-loss Program. <http://win.niddk.nih.gov/publications/choosing.htm>

National Institute of Diabetes and Digestive and Kidney Diseases Weight-control Information Network. <http://win.niddk.nih.gov>

National Institute of Diabetes and Digestive and Kidney Diseases weight loss and control information. <http://www.niddk.nih.gov/health/nutrit/nutrit.htm>

Obesity Research journal. *Obesity* is the official journal of The Obesity Society. Available in print and online, *Obesity* is dedicated to increasing knowledge, fostering research, and promoting better treatment for people with obesity and their loved ones. *Obesity* publishes important peer-reviewed research and cutting-edge reviews, commentaries, public health and medical developments.

<http://www.obesityresearch.org>.

The Obesity Society. The Obesity Society is the leading scientific society dedicated to the study of obesity. Since 1982, The Obesity Society has been committed to encouraging research on the causes and treatment of obesity, and to keeping the medical community and public informed of new advances. Here you can print out the Practical Guide: Identification, Evaluation, and Treatment of Overweight and Obesity in Adults. <http://www.obesity.org/information/practicalguide.asp>

Partnership for Healthy Weight Management. A coalition composed of representatives from science, academia, the health care professions, government, commercial enterprises, and/or organizations promoting the public interest. The goal is to promote sound guidance to the general public on strategies for achieving and maintaining a healthy weight. Here you will find information and facts about obesity, risks of obesity and weight loss guidelines including brochures to find a weight loss program that is right for an individual.

President's HealthierUS Initiative. The HealthierUS initiative is a national effort to improve people's lives, prevent and reduce the costs of disease, and promote community health and wellness. <http://www.healthierus.gov/>

The National Network of Libraries of Medicine has a list of websites that relate to American Indian health. <http://www.tribalconnections.org/ehealthinfo/diabetes.html>

Surgeon General's Call to Action to prevent and decrease overweight and obesity. Here you will find fact sheets and other resources about weight loss. <http://www.surgeongeneral.gov/topics/obesity/>

United Health Foundation "Talk to Your Doctor About Your Weight." The United Health Foundation was established by United Health Group in 1999 as a not-for-profit, private foundation dedicated to improving health and health care. Here you will find practical information about how to get started with a weight loss program. <http://www.unitedhealthfoundation.org/mouth.html>

U.S. Department of Agriculture "Food Pyramid for Adults." The Center for Nutrition Policy and Promotion, an organization of the U.S. Department of Agriculture, was established in 1994 to improve the nutrition and well-being of Americans. Here you will find the food pyramid for adults. <http://www.mypyramid.gov/>

## **Examples of Current Best Practice Programs**

### **Southeast Alaska Regional Health Consortium (SEARHC).**

Contact person/title: Nancy Knapp/Director of Women's Health  
(907) 966-8746

<mailto:nancy.knapp@searhc.org>

WISE at Every Size curriculum targets women of all sizes, using the principles and science of Health At Every Size, focusing on intuitive eating, joyful movement, and positive body image. Pre- and post-intervention health parameters, including glucose, total cholesterol, HDL-cholesterol, blood pressure, and fitness testing (step test) are integral to the program.

**Lionel R. John Health Center — Seneca Health Trail Blazers — Trails of the Iroquois**

Contact persons: Robin Crouse or Patti Kenjockety  
Seneca Nation Health Department  
987 RC Hoag Drive  
Salamanca, NY 14779  
(716) 945-5894  
[patti.kenjockety@senecahealth.org](mailto:patti.kenjockety@senecahealth.org)

**Seneca Nation Health Department's Nutrition, Diabetes and Health Education departments. Trailblazers-Trail of the Iroquois is a Weight Management Program.**

This program began in 2005. It is a multidisciplinary team approach combining basic weight management principles, behavioral health support, and medical reinforcement. The length of the program is twelve weeks. In this program participants meet on a weekly basis. The weigh-in period is followed by a short education session, group discussion, and "boost time." Participants are encouraged to attend weekly, track weight loss, get group support, and increase their physical activity.

**Red Lake Band of Chippewa Indians — Weight Management Program**

Contact Jill Breyen, RD, LD  
(218) 697-3316  
[Jill.Breyen@ihs.gov](mailto:Jill.Breyen@ihs.gov)

This program is for anyone in the community who wishes to maintain their weight or lose weight with the goal of preventing or controlling diabetes and other diseases. The class meets twice a week for 6–8 weeks. Each week, a dietitian teaches one class that focuses on nutrition, and a fitness specialist teaches the other class that focuses on physical fitness. Approximately 25% of the time is devoted to support group activities, during which participants share what works for them and the struggles they have had. The weighing-in is optional, and the program focuses on healthy lifestyle changes.

**Gallup Indian Medical Center — Lifestyle Balance Program**

Mildred Lincoln, RD, Clinical Dietitian  
(505) 722-1282  
<mailto:mlincoln@gimc.ihs.gov>

Alvera Enote, RD, Public Health Nutritionist  
(505) 722-1278  
<mailto:aenote@gimc.ihs.gov>

Patricia Sheely, RD, CDE, Clinical Dietitian  
(505) 722-1523  
<mailto:psheely@gimc.ihs.gov>

## Additional Contacts

**Area Diabetes Consultants.** Contact information for Area Diabetes Consultants can be viewed at:

<http://www.ihs.gov/MedicalPrograms/diabetes/index.cfm?module=peopleADCDirectory>

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# **Appendix A**

## **Improving Adult Weight Management Programs in the Indian Health System**

There are three fundamental questions to ask as you plan and implement your best practice. These questions are:

### **1. What are you trying to do?**

- Improve adult weight management care and services for people with diabetes and at risk for diabetes to improve health outcomes

### **2. How will you know if what we do makes things better?**

- Collect and display data on an ongoing basis. Analyze the data and use it to plan next steps.
- Improved data results suggest that things are getting better. Examples:
  - Over one year, 90% of people with diabetes have weight assessment as demonstrated in annual Diabetes Audit results.
  - Within six months, there is a 10% increase in the number of patients who receive nutrition education from a Registered Dietitian or other provider.

### **3. What can we do to make things better?**

- Receive leadership support to improve effective adult weight management approaches.
- Diabetes team members identify gaps in assessing weight and identify realistic solutions.
- Diabetes team works together to increase the number of annual nutrition education visits for people with diabetes and at risk of diabetes.